Ulster Med J 2009; **78 (1)** 21-25

Paper

Efficacy of treatment in an opioid –dependent population group using the Maudsley Addiction Profile (MAP) tool.

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Accepted 21 August 2008

SUMMARY

A pilot study was performed to assess the effectiveness of treatment in an opioid dependent population using the Maudsley Addiction Profile (MAP) tool[1].

The primary outcome of the study was to assess if treatment had an effect on 1. Substance use (quantity and frequency of use), 2. Health risk behaviour (injecting and sharing injecting equipment), 3. Health symptoms (physical and psychological) and 4. Personal /Social functioning (relationships, employment and crime). A secondary outcome was also sought.

The study took place in 2007 in an inner city Belfast hospital specialising in the treatment of addiction, over a two month period. Fifteen patients, all opioid dependent and receiving outpatient community treatment, were interviewed at baseline (prior to the commencement of treatment) and at eight weeks follow up.

Three patients were lost to follow up. Two patients stopped using altogether. Of the remaining patients, improvements were seen in most areas. There was a decrease in the use of heroin (71.28%), cocaine (99.72%), crack cocaine (100%), cannabis (99.94%) and alcohol (33.17%). There was a reduction in injecting behaviour (60.93%). Improvements were observed in health with a reduction in physical (41.35%) and psychological (35%) symptoms. Overall personal and social functioning improved regarding interactions with family and friends. A reduction in crime was also observed (75%).

Opinions and views of staff involved in the study were generally positive.

This patient population presents with multiple and complex needs. Effective treatment needs to address these needs and not just drug addiction alone. The Maudsley Addiction Profile tool highlights this.

INTRODUCTION

The effect of drug misuse is felt by everyone[2]. It can affect the lives of individuals and communities. Drug misusers often have a set of complex problems. This needs to be taken into consideration if recovery is going to be successful. Problems may range from unemployment, homelessness, involvement in criminal activities to poor physical (particularly the risk of HIV, Hepatitis B, C and other blood borne infections from sharing injecting equipment) and mental health issues. In Northern Ireland drug misuse has become a significant public health issue and costs hundreds of millions of pounds a year. In 2006 the government launched "A New Strategic Direction for Drugs 2006-2011"[3]. This document contained a number of concerns around the treatment of those who misuse drugs including prevention, treatment, harm reduction and monitoring.

METHODOLOGY

Substitute prescribing became policy in Northern Ireland in April 2004. Shaftesbury Square Hospital is located in the centre of Belfast and is involved in the treatment of all forms of drug and alcohol addictions - it covers a catchment area of 370,000. The service provides substance misuse maintenance and detoxification programmes and offers a choice of methadone or buprenorphine medication. It works in liaison with social services, housing and local psychiatric services. The patients can be referred by primary care, Drug Outreach Community Team (these are teams that work exclusively in the community), secondary care mental health services and the criminal justice system. A self referral system service is also in place. The substitution prescribing team consists of a part time administrative team member, four senior full-time nurses, a full time staff grade doctor, a half -time specialist registrar doctor with a consultant psychiatrist input.

In this study all patients fulfilled the ICD10 criteria of Substance Dependence: opioid in nature[4]. The ICD10 categorises the mental and behavioural disorders due to psychoactive substance use by drug types. Informed consent was obtained. All patients were fully informed about the study. Confidentiality was assured and patients were given the option of withdrawing from the study if they decided to at any stage. Patients were interviewed at baseline i.e. prior to commencement of treatment and at an eight week follow up. Patients were assessed on both occasions using the Maudsley Addiction Profile (MAP). The MAP is a brief questionnaire developed in the UK for assessing individuals with drug and alcohol problems. It is both reliable and valid[5,6] and can be

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administered to patients in 15 minutes or less. The 30 day period before intake of treatment is used as the recall period for the MAP interview. It looks at four main areas: substance use, health risk behaviour, physical and psychological health and personal /social functioning.

All patients received outpatient community treatment. This consisted of initial review by the medical team and weekly (or more frequent if needed) review by their team key worker (nursing and medical staff). Once stabilised this review could be decreased to fortnightly. It is the practice of this service that the majority of patients commence opiate substitution treatment as an out patient (prescribed by primary care) whether it is for a detoxification or for a stabilization programme (unless it is decided by the team that for medical or social reasons inpatient treatment is required). Urine screens were taken at regular intervals by individual key workers (i.e. nominated staff members) which would identify recent use of illicit substances. Boxes 1-4 show areas assessed.

A secondary outcome using a qualitative study approach involving staff was also looked at. All staff involved in administering MAP was asked about their views of adding MAP to their initial assessment and at definite follow up periods.

Opinions were sought to explore subjective experience regarding the advantages and disadvantages to the introduction of MAP.

RESULTS AT BASELINE

All of the patients who had been accepted onto the opiate substitution programme at the start of January 2007 were included. All received outpatient community treatment. 15 people (13 male and 2 female) were interviewed. They ranged in ages between 30 and 55 years. Ten patients had self referred, two came from their GP (primary care), one came from the community addiction team (a team that works in a structured outpatient setting), one had been referred from a secondary mental service (i.e. from a psychiatrist) and one had come from the Drug Outreach Team, (a mobile outreach team that work exclusively in the community). None had been referred through the criminal justice system.

All the patients were polydrug users i.e. using more then one type of drug at the time (Box 1). Ten patients reported using heroin. One patient had bought methadone. This was on top of his daily heroin use. Methadone is a controlled drug with a high dependency potential and a low lethal potential. Two patients admitted to buying Morphine sulphate tablets (MST). MST is an opioid analgesic and is used in severe pain. It does not have a licence to be used in opiate dependency.

Four patients admitted to buying Dihydrocodeine (DHC) tablets. This was on top of one patient's daily heroin use. Dihydrocodeine is an opioid analgesic and is used medically for moderate to severe pain. Repeated administration of DHC may cause dependency and tolerance. DHC does not have a licence for use in opiate substitution. One patient admitted to buying buprenorphine. This was not used on top of any other opioids. Buprenorphine is an opioid analgesic and its' indications for use includes moderate to severe pain. It also has a licence for opiate substitution.

Ten patients reported using alcohol for the thirty days prior to the study. This ranged from a pint of beer for one day (two units) to three pints of beer daily for seventeen days (102 units). Seven of the patients had used cocaine in the thirty days previously. Cocaine is a stimulant drug. All admitted to snorting cocaine as opposed to injecting.

Crack cocaine was used by four patients. One patient admitted to injecting crack cocaine whilst the other three took it orally. Six patients reported using Cannabis.

Regarding health risk behaviour, five (four male and one female) admitted to injecting heroin (Box 2). None reported sharing injecting equipment. Of these five, three reported injecting on a daily basis up to twice a day. One reported injecting twenty five days of the thirty previous days again up to twice a day. The one female who admitted to injecting reported that she injecting twice a day for thirteen days.

Five patients admitted to unprotected sexual contact. All five reported to be in a relationship with a partner at the time of the study (Box 2). All admitted to some form of physical symptoms (Box 3). The maximum score was 40. The highest score was 33 and the lowest score was 8. The most common symptoms were muscle pains/joint pains and tremors/shakes.

All patients admitted to some form of psychological symptoms. The maximum score was 40. The highest score was 40. The lowest score was 8. The most common symptoms were "feeling tense" and "feeling no interest in things".

In personal/ social functioning eight patients were in a relationship with their partners at the time of this study (Box 4). Six patients admitted to conflict. All patients had had some form of contact with their relatives. Four admitted to conflict with their relatives. Thirteen out of fourteen patients had had contact with friends in the previous thirty days prior to engagement in treatment. Three patients admitted to conflict with friends. Only three patients admitted to working in the previous 30 days. One had worked six day, one was in full employment and one worked four days per week. Four patients admitted to being involved in some form of crime in the previous 30 days. Two had been involved in selling drugs on eight occasions. One admitted to one episode of shoplifting whilst another admitted to two episodes of shoplifting and nine episodes of being caught for possession of heroin.

RESULTS AT EIGHT WEEKS FOLLOW UP

There were three patient lost to follow up. All three did not return to the programme after the initial assessment. Of these three drop outs two were male and one was female. All three were multiple drug users and were heavy users of illicit substances. Only one of the three had injected. Two patients had stopped using illicit drugs altogether.

For substance use (Box 1) five patients admitted to the continued use of heroin. Of these two admitted to continue injecting but denied sharing. The average total use per patient in the previous thirty days was 2.8g. This was a decrease of 71.28%. There was no reported use of DHC (dihydrocodeine). One patient had taken an MST (morphine sulphate) tablet on one occasion. Three patients continued to drink. The average total units consumed per patient were 41.3 units which was a decrease of 33.17%. Two patients continued to

use cocaine and the average total use per patient was 0.1g. This was a decrease of 99.72%. No patient reported the use of crack cocaine. Four patients continued to use cannabis. The average total use per patient was 1.01g which was a decrease of 99.94%.

BOX 1

Substance Use	Baseline Average total scores per patient	Eight week follow up Average total score per patient
Heroin (grams)	9.75	2.8
Alcohol (units)	61.8	41.3
Cocaine (grams)	35.9	0.1
Crack cocaine (grams)	21.8	0
Cannabis (grams)	18	1.01

For health risk behaviour (Box 2) two patients continued to inject. One patient injected twice one day. The other individual injected twice a day for 19 days. The average total episodes per patient were 20 episodes. This was a decrease of 60.93%. Four patients continued to have unprotected sexual activity with their partners. The average total episodes per patient were 7.75 which was a decrease of 0.6%.

BOX 2

Health Risk Behaviour	Baseline Average total scores per patient	Eight week follow up Average total score per patient
Injecting behaviour (episodes)	51.2	20
Unprotected sex (episodes)	7.8	7.75

With physical health (Box 3), all patients had reduced their scores. The average total score per patient was 11.6 which was reduction of 41.35%. All patients had reduced their scores in the psychological health domain. The average total score per patient was 13 which was a reduction of 35%

BOX 3

Health	Baseline Average total score per patient	Eight week follow up Average total score per patient
Physical symptoms	19.78	11.6
Psychological symptoms	20.1	13

In the personal/ social functioning domain (Box 4), seven patients had contact with their partners and the average total days of contact per patient was 30 days which was an increase of 9%. Three patients continued to have conflict with their partners and the average total conflict days was 16.6 days which was an increase of 10.66%.

11 patients continued to have contact with their relatives and the average total days of contact were 26.09 days which was an increase of 48.23%. Five patients continued to have conflict with their relatives and the average total days of conflict per patient were five days which was a decrease of 62.9%.

12 patients continued to have contact with friends and the average total days of contact per patient were 20.5 days which was an increase of 14.28%. Two patients continued to have conflict with their friends and the average total days of conflict per patient in the previous thirty days were two days. This was a decrease of 81%.

Two patients continued to work .One worked in full employment and one worked for nine days. The average total days of employment per patient was 14.5 days which was an increase of 3%.

Only one patient had one episode of shop lifting which was a decrease of 75%.

BOX 4

Personal / Social Functioning	Baseline Av. total score per patient	Eight week follow up Av. total score per patient
Relationship		
Partner contact (days)	27.5	30
Partner conflict (days)	15	16.6
Family contact (days)	17.6	26.09
Family conflict (days)	13.5	5
Friends contact (days)	17.5	20.05
Friends conflict (days)	12.33	2
Employment (days)	14	14.5
Crime (episodes)	7	1

QUALITATIVE RESULTS ON VIEWS OF MAP

Staff views regarding the administration of the Maudsley Addiction Profile:

"The MAP was focused and direct and explored areas which may not necessarily be addressed. It provided material for work in further sessions"

"The MAP was easy to use and it did not impinge on other duties, it was completed during scheduled appointments"

"I could see the MAP been implemented into daily practice. However there were concerns raised by some patients regarding confidentiality especially those with a criminal background"

"I found the questions very direct and patients found it easy to answer"

"The MAP provided information which often gets lost when focusing on screening results"

"It helps both the patient and staff member involved to see clearly if improvements have been made with treatment"

DISCUSSION

Interpretation of results

Two patients had stopped using drugs altogether. Both of these were male. Both had injected and had been heavy users of drugs. Data was incomplete as three patients were lost

to follow up at eight weeks due to the fact that they did not remain engaged with the addiction services. All three failed to return without reason. It was impossible to obtain any information regarding the status of these patients at the end of the study. The concern here is that these dropouts may not be representative of those who completed the trial.

The majority of patients in this study were male which would reflect the majority of addiction studies. Of those that completed the study, most scores showed improvement during treatment although it is not clear whether the improvements were significant as no statistical tests were applied. All substance use i.e. in both frequency and quantity showed improvement. No patient was using crack cocaine at follow up. Multiple drug misuse is common in this patient population. Treatment outcomes can be extremely variable and varying degrees of improvement can exist. Evidence has shown that drug treatment is effective in reducing illegal drug misuse[7-9]. Better treatment outcomes have been found to be associated with time in treatment and whether treatment was completed[10]. Retaining patients in treatment considerably enhances the benefits to both patients and society in general[11]. Early treatment drop-out is associated with a high risk of relapse to problem drug risk[12].

In this study a reduction in the misuse of alcohol was seen. The World Health Organisation advises that the maximum recommended levels of weekly alcohol consumption are 21 units for men and 14 units for females. Heavy drinking especially alcohol dependence is an important problem in drug misuse treatment and can sometimes be forgotten about. Dually (drug and alcohol) dependent individuals often have higher rates of criminal involvement and more health problems than drug misusers without drinking problems[13]. Heavy drinking causes a serious threat to the health of this group, especially as many have liver disease and impaired liver function[14]. The reduction regarding alcohol intake in this study could be due to a number of factors. Regular education around the use of alcohol and opiate substitution medication can improve awareness of the dangers of alcohol misuse. Another possible factor here could be that if any staff member has concerns of a patient's use of alcohol whilst on the programme, suspension of opiate substitution medication can be sought.

Physical and psychological scores showed improvement. In this study health risk behaviour showed improvement at follow up with decreased episodes of injecting behaviour. In 2005 The "Shooting Up" Report[15] showed that there was an increase in the sharing of injecting equipment amongst injecting drug users. This recent research into drug injecting trends amongst those using heroin and crack/cocaine suggested a growing risk of blood borne virus transmission i.e. HIV, Hepatitis B and C infection. Shaftesbury Square Hospital as with other addiction services provides education around injecting risk and unprotected sexual risk behaviours. Studies show that reductions regarding instances of injecting and sharing injecting behaviour have been found 4-5 years after patients were admitted to treatment programmes[16].

Psychological symptoms are common with this patient population especially those related to anxiety and depressive mood[17]. Many receive treatment for a psychiatric health problem other than substance abuse. Studies have shown that the severity of psychiatric disorder had been found to be related to poorer treatment outcomes[18]. In this study there was no information whether any of these patients were already engaged with mental health treatment i.e. primary care or secondary mental health services.

Regarding personal/social functioning, all contact (partner, family and friends) improved. Interestingly though the average score of partner contact had improved, the average score of partner conflict showed an increase. Possible reasons for this could be that during the initial withdrawal period from drugs, patients will become more aware of their surroundings and their responsibilities. Giving up the drug life style can lead to thoughts of guilt and self- blame leading to interpersonal and intrapersonal conflict.

There was a small increase in employment, however at follow up two patients continued to work compared to three at baseline. There was a reduction observed in crime episodes with treatment and this reflects other studies findings[19].

This study showed certain strengths. The subject researched was relevant to day-to-day practice in the Addiction Unit. All patients fulfilled the ICD10 criteria of Substance Dependence Syndrome. Sampled subjects were selected from the waiting list regardless of how they had been referred. There was no stringent inclusion or exclusion criteria. Data collection was systematic.

The use of a qualitative approach was appropriate. The Opiate Prescribing team were asked about their personal opinions of incorporating the Maudsley Addiction Profile tool into their assessments. Staff were encouraged to be open and honest. Any relevant statements were written verbatim by the authors.

There were several limitations which need to be mentioned here. The study only consisted of 15 patients and had a short follow up period of eight weeks after the initial assessment. However there were a lot of similarities in the results compared to previous studies[20-22]. Mean scores were taken and there was a lack of statistical analysis in this study. There was one patient who due to his high use of illicit use tended to skew the results.

It is important to be aware that not all aspects related to a full research project can be thought of at this very early stage and may only become obvious when the larger research project is carried out e.g. problems about resources may arise later in a main study (although this pilot study did not require a significant investment of resources).

In this study all of the patients received outpatient treatment. Due to the fact that only one form of treatment was used, no comparison can be performed between inpatient and outpatient treatment. There was also no record if a patient was commencing an opiate detoxification or an opiate stabilisation programme.

The MAP tool is depending on self report of drug use and behaviour. There is the risk of the "Hawthorne effect", in that the presence of the researcher may affect the behaviour of those researched. This is difficult to control for. Doubts are frequently expressed about the extent to which self-report screening instruments can provide an accurate picture of substance use. Patients may not want to admit to their drug

taking behaviour due to the fear of possibly not been accepted or retained in the treatment programme. In this study regular urine specimens were taken by the individual key worker to validate self report drug use. However it is important to remember that many of these illicit drugs have a very short wash-out period (i.e. they can leave the body quite quickly e.g. heroin 2-4 days, cocaine 12-72 hours). These illicit substances may therefore go undetected if patients are seen on a weekly basis.

It was difficult to quantify drug amounts. Many patients buy large quantities of drugs and make up their own drugs daily e.g. a joint of cannabis or a line of cocaine. The authors attempted to control for this by using drug standardised weights.

There were certain variables/factors omitted from the MAP assessment tool that should be considered and could influence outcome. Regarding the treatment of these patients in this study all were on some form of pharmacological treatment i.e. opiate substitution medication (methadone or buprenorphine), however doses were not recorded. Although all were seen weekly by their key worker the individual sessions were not standardised. Questions regarding accommodation arrangements (i.e. whether all patients at the time of the study were in stable accommodation or homeless) were not included.

Despite the limitations of this study, the overall results were positive regarding when patients with a diagnosis of substance dependency engage with an opiate substitution prescribing service. The study addressed the effectiveness of treatment. The treatment of this population is difficult and complex. Recognition of these factors and their importance helps treatment services more effectively.

From this pilot study a research question and plan can be developed. Involved service providers appeared positive regarding their opinions and attitudes of the study. This may help to convince others that the main study is worth pursuing.

The authors have no conflict of interest.

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